

I-5 / Fort Lewis Congestion Study

Executive Summary

Overview

During the 2005 Legislative session lawmakers took a decisive stance on transportation. In addition to creating a comprehensive package of highway improvement projects, they directed the Department of Transportation to study congestion on I-5 in the vicinity of Fort Lewis.

What is the purpose for this report?

Engrossed Substitute Senate Bill 6091.PL Section 308 (Program I), paragraph 9 directs the Department of Transportation to:
... conduct an analysis of the causes of traffic congestion on I-5 in the vicinity of Fort Lewis and develop recommendations for alleviating the congestion.

This report documents existing conditions and recommends solutions for the section of I-5 between the Steilacoom-DuPont Road and Thorne Lane interchanges.

What are the findings?

The five most effective alternatives identified in this study are listed in the table on the following page.

Summary of Alternatives

Alternative	Description	Impact	Cost in 2005 Dollars
Enhance Incident Response	<p>Strengthen IR Service: Add a second roving unit Capital Costs: \$32,000 Operating Costs: \$67,000 /yr Add a tow truck Operating Costs: \$109,000 /yr</p> <p>Enhance Operations: Add incident detection capability Capital Costs: \$1.5 million</p>	Reduces response time by 8 minutes and reduces time required to clear blocking incidents.	<p>Low – \$2.5 million over 5 years.</p> <p>Total Operating costs are \$176,000 / year</p> <p>Total Capital costs are \$1.53 million</p>
Install Ramp Meters	Modify ramps and install ramp meters through the study corridor	Reduces congestion for 5 to 10 years.	Medium – Less than \$35 million
Add HOV Lanes*	Add an HOV lane in each direction, rebuild all interchanges	General purpose lanes exceed capacity by 2030	High – \$400 to \$800 million
Construct Auxiliary Lane	Add 4 th lane between the Berkeley Street northbound on ramp and the Thorne Lane northbound off ramp	All lanes exceed capacity by 2020.	Medium – Less than \$20 million
Add General-Purpose Lanes*	Add a general purpose lane in each direction, rebuild all interchanges	All lanes exceed capacity by 2030	High – \$400 to \$800 million

- Adding both GP and HOV lane was not considered due to the high cost. Adding High Occupancy Toll (HOT) lane was not considered because it would require a more complex evaluation than was possible within the scope of this analysis.

It is important to recognize that I-5 forms the only high-speed connection between the southern Puget Sound Region and the Tacoma/Seattle area. This is the result of geographic constraints, like the Nisqually River, and the fact that the few alternate routes through Thurston, Pierce, and King Counties are either choked by urban development or plagued by missing links.

I-5 is the lifeline for the Central Puget Sound Region. It moves more people and freight than any other highway in the state, even if their destination lies east of the Cascades. Increasing travel demand, due to

regional growth may make it impossible to do more than provide short-term solutions or shift the congestion up and down the freeway without widening, providing alternate routes, or alternate modes that address transportation demand on the inter-regional network. Therefore, extending the utility of the existing network needs to be examined. This effort will require a detailed technical analysis of the following items:

- An origin and destination study to determine the type, frequency and focus of travel in the corridor.
- An assessment of the local network to determine where completion or expansion of the existing system would provide alternate routes.
- An assessment of the benefits created by the expansion of alternate modes.
- A review of environmental constraints.
- Public involvement to ensure acceptability of the chosen solution.

Such an effort is obviously beyond the scope of this study and will require allocation of a significant amount of time and money to arrive at a mutually acceptable and affordable solution.

What are the recommendations?

We recommend the following short-term solutions

- Installation of ramp meters at all of the interchanges through the study area,
- Construction of an auxiliary lane between the Berkeley Street and the Thorne Lane interchanges,
- Expanded Incident Response with early incident detection capabilities.

These improvements would provide five to ten years of improvement for a cost of \$60 million dollars (in 2005 dollars).

A comprehensive study of the regional city/county/state transportation network could find a long-term solution by identifying alternate routes or modes that could be developed to address transportation demand on the inter-regional network. The cost, in 2005 dollars, of such a study ranges from \$1.2 to \$1.5 million.